

# Notice of Allowability

Application No.

10/702,230

Examiner

Steven H VerSteeg

Applicant(s)

FELTSMAN ET AL.

Art Unit

1753

## -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to IDS filed February 16, 2004.
2. ☒ The allowed claim(s) is/are 1-12.
3. ☒ The drawings filed on 06 November 2003 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All b) ☐ Some\* c) ☐ None of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).


\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

## Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date 2/16/2004
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

  
Steven H VerSteeg  
Primary Examiner  
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### EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

The application has been amended as follows:

**In the specification:**

[0001], line 1, please delete "co-pending"

[0001], line 2, after "2002," please insert –now U.S. Patent No. 6,669,829—

### *Reasons for Allowance*

2. The following is an examiner's statement of reasons for allowance: it is neither anticipated nor obvious over the prior art of record to have a method for detecting the position of a shutter disk within a physical vapor deposition chamber having a substrate support as claimed by Applicant in claims 1 and 8.
3. US 6,176,978 B1 to Ngan discloses a PVD deposition chamber (Figure 1B) comprising a shutter disk **33** that moved between a position in front of the substrate and a position not covering the substrate (col. 3, l. 44-58). Ngan does not use a sensor to sense the edge of the shutter disk in a position clear of the substrate or changing a state of the sensor in response to a position of an edge of the shutter disk.
4. US 6,051,113 to Moslehi has a rotating shutter disk, but it is located within the main chamber and does not have a sensor that senses the position of an edge the shutter or changes a state of the sensor in response to the position (Figure 8).

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5. US 5,980,194 to Freerks et al. (Freerks) discloses a system with a detection system for determining the presence of a wafer (abstract), but the sensor does not sense the location of an edge of the shutter disk or changes the state of the sensor in response to the position of the shutter disk.

6. US 5,844,683 to Pavloski et al. (Pavloski) discloses a system that detects the position of the substrate holder (abstract), but there is no detection of the edge of a shutter.

7. US 5,483,138 to Shmookler et al. (Shmookler) discloses a system for determining the center point of a substrate (abstract), but the system does not detect the location of a shutter.

8. JP 61-84370 (JP '370) appears to disclose detecting the closed and open positions of a shutter in a sputtering apparatus, but there is no sensing of the "edge" of the shutter, merely the presence or absence of the shutter. Also, the state of the sensor is not altered based upon the position of the "edge" of the shutter. Detecting the presence or absence of a shutter is far different from sensing the edge of a shutter.

9. Therefore, no reference individually teaches all of the limitations claimed by Applicant. Modifying either Ngan or Moslehi with Freerks, Pavloski or Shmookler would not result in Applicant's claimed invention. The resulting invention would be a system with a shutter and a sensor for detecting the center point of the substrate or the location of the substrate. There would be no detection of the shutter unless hindsight reasoning is utilized.

10. Combining JP '370 with any of Ngan, Moslehi, Freerks, Pavloski, or Shmookler would still not result in Applicant's claimed invention because the most that would be detected of the shutter would be the presence or absence of the shutter. There would be no detection of the "edge" of the shutter.

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Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***General Information***

For general status inquiries on applications not having received a first action on the merits, please contact the Technology Center 1700 receptionist at (571) 272-1700.

For inquiries involving Recovery of lost papers & cases, sending out missing papers, resetting shortened statutory periods, or for restarting the shortened statutory period for response, please contact Denis Boyd at (571) 272-0992.

For general inquiries such as fees, hours of operation, and employee location, please contact the Technology Center 1700 receptionist at (571) 272-1300.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven H VerSteeg whose telephone number is (571) 272-1348. The examiner can normally be reached on Mon - Thurs (6:30 AM - 5:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam X Nguyen can be reached on (571) 272-1342. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Steven H VerSteeg  
Primary Examiner  
Art Unit 1753

shv

May 17, 2004